

## **ABSTRACT OF THE DISCLOSURE**

[058] The present invention relates to methods and systems for routing mobile vehicles under maintenance and operational constraints. In the case of aircraft, the methods and systems may generate an aircraft routing proposal based on information describing a possible flight of an aircraft, determine a proposed flight assignment for the aircraft based on the generated aircraft routing proposal and complying with the information describing the possible flight of the aircraft, and determine whether the proposed flight assignment meets a decision criterion describing requirements for aircraft routing. If the decision criterion is unmet, the methods and systems may optimize the proposed flight assignment such that the proposed flight assignment meets the decision criterion. The methods and systems may also generate a flight assignment plan using the proposed flight assignment that meets the decision criterion.

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